



Learning competition and business restructuring in the enlarging EU



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Introduction

Over the last 30 years, a great challenge to companies has been how modern ICT, organisational structures, core business goals and strategies and human resources should be combined in the emerging new economy to keep or obtain global competitiveness. There is wide agreement that, together with the globalisation of the economy, the rules of the competition game have changed significantly. Yet scholars have been struggling to capture the new dimension of competitiveness in the globalising economy. Only recently have they identified learning as the '... deepest and most general way to describe the logic of the most advanced forms of economic competition' (Storper, 1997, p. 31). The fact that, in a globalising economy, innovation is becoming the dominant competition criterion puts high demands on the learning capability of individuals and organisations. Those who are faster and better in generating new knowledge and putting it into practice can sustain and improve their competitiveness, as they can derive the first mover advantage.

Learning is associated with heightened reflexivity. Reflexive learning can be defined as 'the possibility for groups of actors (...) to shape the course of economic evolution' (Storper, 1997, p. 28). Self-reflexivity characterises the capability of actors to deliberately imagine and act on different strategies (Sabel, 1997). Self-reflexivity, however, is not possible without structural reflexivity.

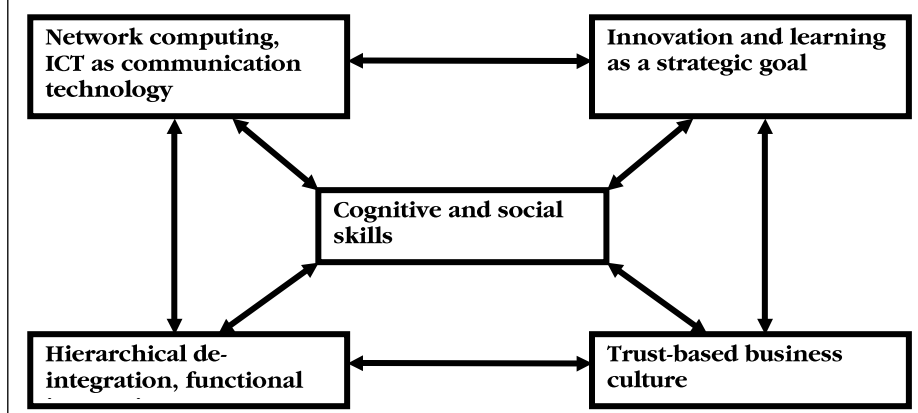
Lash relates structural reflexivity to an organisation form, '... where the rules and resources (...) of the shop floor, no longer controlling workers, become the object of reflection for agency. That is agents can reformulate and use such rules and resources in a variety of combinations in order chronically to innovate' (1994, p. 19). The aim of this article is to identify and understand changes in the business model, caused by the emerging new competition game.

Empirical findings

In the following I analyse to what extent companies in Europe have transformed their business models into a learning organisations, including organisational, technical, cultural, strategic and skill dimensions. European firms, in spite of investing heavily in R&D, are said to lag behind in terms of productivity and innovation because they are slow in adapting to intelligent ICT use practices, new organisation principles and changing skill demands (Womack et al., 1990; Weinstein, 1997). I use empirical findings from case studies and firm surveys conducted in the EU Member States ⁽¹⁾ and in the candidate countries ⁽²⁾ ⁽³⁾. Some general trends can be identified in company restructuring practices along with differences. The main finding is that only a minority of companies have undertaken a holistic and integrated restructuring process aimed at improving their learning and innovation capacity. More often, companies have introduced isolated renewal steps focusing on only a single di-

The growing importance of learning as the key competition criterion obliges companies to undertake holistic and integrated restructuring to maintain or improve their market position. Such a renewal approach includes a focus on innovation as a strategic goal, intelligent use of modern ICT, development of decentralised organisation forms, establishment of a trust-based business culture and improvement of human resources. Empirical findings indicate that companies in EU Member States and candidate countries are rather slow in adapting their business systems to the new competition logic. Companies seldom define innovativeness as their core goal and they focus more on technical than on organisational restructuring. Companies in the Member States seem more sensitive concerning the value of their workforce than in the candidate countries. But improving human resources cannot increase the learning capacity of companies significantly if business structures do not become more reflexive.

(1) The TSER project Information society, work and the generation of new forms of social exclusion. The following territories were involved in the research project: Flanders, the Republic of Ireland, Lazio (Italy), Lower Austria, Portugal, the Stuttgart Region (Germany), the Tampere Region (Finland) and West-London. A company survey was conducted in 1999 that contained 800 companies, 100 per territory. The regional/national samples were structured according to company size and industry. The companies were ap-

**Business restructuring processes in a knowledge-based economy****Figure 1**

mension of restructuring. Companies in the candidate countries seem to be even less involved in holistic restructuring practices than companies in the member countries.

Research in the Member States

Companies that are faced with increasing learning competition to stay in business have to renew their business model by holistic and integrative restructuring. Such an approach needs to incorporate a cluster of complementary changes including a focus on innovation as a new strategic goal, the introduction and intelligent use of modern ICT, the development of new decentralised and flexible organisation forms, and establishing a trust-based organisation culture. At the same time, workers have to acquire new skills and competences allowing them to participate in learning and innovation. This also has an impact on companies' further training activities. All the elements of the change process are closely linked and mutually influence each other, as can be seen in Figure 1.

Empirical findings seem to disprove the argument that companies are forced to embody a philosophy of continuous improvement and innovation. Innovativeness is actually considered to be the last, not the most important, strategic goal by companies. A great majority of companies mention quality as their key achieving criterion and also productivity, flexibility and delivery time seem to be more important as strategic goals than innovativeness. Of course, achieving high quality often requires continuous, incremental innovations.

Learning is associated with a new organisation logic, turning upside down the principles of the traditional Fordist organisation

model, which is marked particularly by hierarchical deintegration leading to flat hierarchies and functional integration as manifested in group work and team structures. The new organisation logic replaces market-based relationships by more stable network-based forms of cooperation (Castells, 2000). The empirical findings suggest, however, that companies are much more stable than is assumed in management literature. A greater number of companies did not engage in any kind of organisational change and the ones that did introduced, in most cases, only a few isolated organisational innovations. It seems that not many companies have prepared themselves for the logic of the new competition game based on learning by applying a holistic approach to organisational restructuring.

Group work and project teams, subcontracting or geographical relocation, strategic alliances, downsizing or splitting the company, and profit or cost centres were introduced slightly more than flatter hierarchies or subcontracting networks. But all those organisational innovations were introduced by fewer than half of the companies. In general, companies focused more on internal than on external restructuring. In about 50 % of all change activities, modern ICT was considered to be playing an important role as the driving force of organisational restructuring.

Organisational learning can be supported effectively by a new computing model, which focuses on integration as well as knowledge exchange (Tapscott, 1995). Ward et al., (1990, see also Sampler, 1997, p. 19) argue that together with growing technical potential of modern ICT, a shift has taken place from data-processing (administrative, centralised mainframe computing) and management information systems (MIS) to individual and office-support on PCs and office systems, and then to electronic data interchange (EDI) and inter-organisational systems, organisation platforms, and network computing.

Our empirical findings suggest that companies use modern ICT quite extensively and they increasingly engage in the paradigm shift towards networked technology. About half of all companies are using ICT in an advanced way, while only about one-third of all companies can be characterised as technology laggards⁽⁴⁾. There clearly is a trend from centralised mainframe computing and

proached either by telephone, in written form, or in personnel interviews, using a standardised questionnaire. In addition, 10 case studies were conducted in each territory. The response rate varied from territory to territory from about 25 % to over 50 %. For more information, see the final report of the project (2002) written by G. Schienstock.

⁽²⁾ Here I refer to several publications that are linked to the research project Human resources in the context of regional development, launched by the European Training Foundation in 2000 (Masson 2002, and various national reports).

⁽³⁾ As research undertaken in the Member States and candidate countries was conducted in different projects, the results are not fully comparable.

⁽⁴⁾ The typology used is based on cluster analysis. The first cluster had a negative score on the three ICT variables used in the analysis, namely the use of ICT in office tasks, production, and communication. This cluster is called 'low use of ICT'. The second cluster had a negative score in communication, but a positive one in office tasks and in production, if applicable; it is labelled 'traditional use of ICT'. The third cluster, named 'advanced use of ICT', had high scores on all three ICT variables.



isolated computer systems towards network applications, often with each unit being connected to a central computer. But network technology is less used by companies to exchange data with the outside world.

The survey shows that companies are using software support for administrative processes quite extensively. However, while the overwhelming majority of companies have automated their traditional administrative tasks to a great extent, customer-related functions are less frequently supported by software use. Furthermore, most companies have automated most of their administrative processes, indicating the use of an integrated approach. Automation of manufacturing processes is less extensive ⁽⁹⁾; it can be found more in preparatory work phases such as production planning and production design than in the remaining work processes including the actual treatment of products. Furthermore, nearly all companies have the technology to engage in electronic communication. Access to the Internet and the use of the e-mail are both quite common.

Our conclusion that companies increasingly engage in the paradigm shift towards networked technology is also supported by the fact that modern ICT is used more as communication and coordination technology and as a tool to improve quality and to speed up decision-making than as automation and control technology.

Flexible ICT-based organisation forms only represent the pipeline and storage system for the exchange of information and knowledge; they do not affect this exchange. Firms have to direct and align perception, understanding and evaluation of their employees through a strong business culture to stimulate innovation and learning as a new strategic aim. In an organisational culture based on distrust, knowledge will not be shared and distributed and interactive learning and collective innovation processes will not take place, even if the firm has the most advanced ICT applied (Davenport and Prusak, 2000, p. 18). Worker participation in ICT implementation and organisational restructuring can be seen as an important indicator of a trust-based organisation culture. Two-thirds of all companies practiced such user involvement, which means that a trust-based business culture was widespread. Caution is necessary, however, because user participation is just one dimension of trust-based

work relationships. Nevertheless, the empirical findings indicate that users became much more involved in restructuring than representatives of unions.

Although modern ICT allows increasing codification of knowledge, a major part of companies' knowledge, particularly when it comes to innovation processes, remains tacit and embedded in the competences, capabilities and experiences of the workforce. Strong human capital is crucial to the capacity of companies to learn and continuously innovate. The lack of skilled and experienced personnel is often seen as a factor seriously limiting collective learning and innovation (Stahl et al., 1993, p. 26). There is a considerable demand for adapting human capital as learning and innovation becomes a new challenge; workers can no longer rely on their traditional work-related skills. Instead they have to acquire new skills and competences such as cognitive skills, social skills or learning-to-learn competences (Oates, 1998; Sellin, 2002).

There seems to be a great demand for a variety of different skills, such as information processing, social competences, organisational and management skills, creativity and responsibility, while professional skills, practical knowledge and multi-skilling were mentioned less often. However, the majority of companies indicated a demand for all skill dimensions. Companies valued information skills as highly important but the capacity to work on and analyse a huge amount of data (cognitive skills) seems more important than the skills to work with specific technologies (digital skills). In general, the empirical findings show that there was more demand for skills referred to as soft skills, such as social and organisational skills and work virtues, than for professional and work-process-related skills.

Increasing demand for new knowledge, skills and competences associated with the introduction of new products, the widespread use of modern ICT and organisational restructuring causes companies to focus more on further training. But, in most cases, companies only offer short-term training and many companies expect their workers to take care of upgrading their skills and competences themselves. Companies are prepared to give some support but workers have to contribute significantly by sharing the financial and time burdens.

⁽⁹⁾ Here I only refer to those companies for which the respective tasks are applicable.



Dimensions of different organisation models				Table 1
Dimension	Low-tech Fordist	High-tech Fordist	Low-tech network	High-tech network
Use of ICT	low or traditional use of ICT	advanced use of ICT	low or traditional use of ICT	advanced use of ICT
Function of ICT	control	automation	communication, organisation	communication, organisation
Internal organisational restructuring	little organisational restructuring	little organisational restructuring	group work	group work and flat hierarchies
External restructuring	less intensive	less intensive	intensive	intensive
Main goals	quality, productivity, delivery time	quality	quality, innovation	quality, innovation
Market position	regional company	major international player	national company	national company, major international player
Culture	distrust (low rate of user involvement)	trust (high rate of user involvement)	trust (high rate of user involvement)	trust (very high rate of user involvement).
Skill demands	slightly more work-related skills	communication skills	slightly more work-related skills	communication skills

Soft skills become increasingly important but they are difficult to learn in further training courses; companies are less prepared to give financial support for the acquisition of those kinds of skills and competences. Instead more attention is given to social skills in the personnel selection process. While the lack of ICT knowledge is hardly a reason to reject somebody, missing social skills are more likely to disqualify a candidate.

On the basis of the empirical findings, a distinction can be made between the following four techno-organisational systems: low-tech Fordism, high-tech Fordism, low-tech network organisation and high-tech network organisation. Companies that belonged to the low-tech Fordist type had installed little modern ICT or only less advanced systems and they had not undertaken major steps of organisational restructuring. High-tech Fordism was associated with intensive use of ICT mainly to improve control potential, but modern ICT was also introduced to make rigid organisational structures more flexible. The low-tech network form was characterised by intensive organisational restructuring, unsupported by an intensive use of advanced ICT systems. The high-tech network type combined advanced technology with at least partial organisational restructuring strategies ⁽⁶⁾.

Research in the candidate countries

I have argued that a highly skilled workforce must be seen as companies' most important intangible asset because it has the capacity to enhance or to support innovation and learning, the dominant competition criterion in the emerging new economy. How-

ever, empirical findings, despite the variation in regions, seem to indicate that companies in the candidate countries in general, and SMEs in particular, had not been aware of the key role of knowledge, skills and competences in the emerging new economy. Only between 40 % and 12 % of companies in a particular region mentioned their workforce as a major strength of their organisation (Masson, 2002, p. 1).

There may be different reasons for this; either companies did not assign significant value to the role of their workforce as there was less demand for new skills and competences, or their workforce is not equipped with the needed skills and competences. In the first case, it can be assumed that companies had not adapted to the new learning and innovation competition, and they could therefore rely on a less educated workforce. But it is also possible that companies were less satisfied with the skill level of their workforce and saw the low qualification of their workers as a hindrance in the transformation phase.

The latter argument is supported by the fact that companies experiencing an increase in their market share and strong productivity growth were concerned about the skills and competences of their workforce. For highly dynamic and innovative companies, skill shortage became a major hindrance factor for further growth. They seemed to believe that scope existed to improve the capabilities and contribution of their current workforce. In other cases, companies did not see their workforce as a competitive advantage because they lacked an innovation-oriented business strategy. Focusing on a

⁽⁶⁾ Companies were also subsumed under the category of high-tech network organisation when they had only partially restructured either the vertical or the horizontal dimension of cooperation.



traditional cost-based production policy and traditional work structures, companies were probably not aware of the huge potential a highly qualified workforce can offer for increasing competitiveness through innovation activities.

Furthermore, the empirical findings suggest that SMEs generally failed to apply a coherent renewal approach which would have integrated the development of innovation strategies and the technological infrastructure, the institutionalisation of new organisation forms and the improvement of employees' skills and competences. In many cases, companies that developed their human resources did so without combining this with an overall approach towards improving competitiveness in a globalising economy that also introduces major techno-organisational changes. The missing context sensitivity, however, may have reduced the effectiveness of human resources development intervention strategies, as workers could not use their new skills and competences effectively.

However, techno-organisational renewal strategies make little progress if they are not combined with human resource development strategies. In general, companies had some experience in assessing the skills of their workforce and identifying skill demands; they felt less secure, however, in evaluating future skill needs. But companies did not seem to examine the skills and competences of their workforce in relation to the development of their innovation capacity and their overall competitiveness.

There are further indications that companies in the candidate countries did not value their workforce as highly as those in the member countries, and that they felt less responsible for obtaining and maintaining the qualification of their workforce. The Eurostat CVTS2 survey conducted in 1999 reveals a disparity in continuing vocational training activities initiated by companies between the candidate countries and the Member States. Only an average of 40 % of all companies in the candidate countries had organised training, well below the EU average of 72 %. There were, however, large national differences: for example, the Czech Republic and Estonia were close to the EU average, while Poland and Hungary with less than 40 % and Romania with about 10 % were far below the EU average (Mas-

son, 2002). That companies in the candidate countries felt less responsible for qualifying their workforce is also indicated by their limited attempts at overcoming the problem of filling vacancies by training their workforce more extensively.

In general, training investment concentrated on more highly-skilled workers and on those occupational groups with a relatively high stock of initial skills, contributing to the conservation of functional hierarchies. In many cases, the aim of additional training was very limited; further training was limited to imparting the knowledge to work with new technical equipment. The fact that digital competences played a lesser role in the candidate countries than in the EU member states indicates a low penetration of work processes by modern ICT and more traditional use of the technology. Furthermore, management training remains an area of relative under-investment, which shows that companies in the candidate countries underestimated the importance of new organisation and management practices for improving their global competitiveness.

Human resources development focused prominently on job interchange, stressing the importance of learning by doing, and on multi-skilling. This priority clearly indicates that the intention of further training was primarily to increase productivity and flexibility but not so much to empower people to contribute substantially to techno-organisational renewal processes necessary to enhance companies' innovation capability. From these findings it can be concluded that human resources development strategies were not co-ordinated with business development strategies, if the latter existed at all. If companies had aimed at strengthening their position in global innovation competition, they would have had to focus on the improvement of cognitive, social and management skills, for example.

Firm surveys conducted in several regions of the candidate countries give a more detailed overview of shortages of various skills and competences (Polish National Observatory, 2001; Lithuania National Observatory, 2001; Estonian National Observatory, 2001; Czech National Observatory, 2001; Hungarian National Observatory, 2001) ⁽⁷⁾. Table 2 shows that regions in the candidate countries differ significantly in demand for skills and competences.

(7) There are several aspects that make comparison between the countries difficult. First, the surveys often use different categories of skills and competences. Second, while in Poland and Estonia the survey covers only a specific region, the Lithuanian survey covers the whole country. Third, industrial differences in the regions are significant, which has an impact on the demand for particular skills.



Skills demands in companies in various regions in candidate countries

Table 2

Region	South Estonia	Lubelskie voivodship (Poland)	Lithuania	North West Bohemia (Czech Republic)	South Great Plain Region (Hungary)**
Professional skills	15 % (main skills)	10 % (work experience)	21 % (work experience)		8 %* technical/ professional skills
Technical skills	40 %	–	–	–	13 %
Communication skills	20 %	4 %	14 %	12 %	8 %*
Digital skills (computer skills)	13 %	6 %		7 %	
Management and supervisory competences	1 %	9 % (commercial and business awareness)	10 % (ability to work independently)	–	–
International skills (foreign languages)	20 %	–	–	12 %	–
Creativity, initiative, originality	21 %	6 %	–	–	8 %*
Reliability, motivation, honesty	–	7 %	9 % (honesty)	–	–
Social skills: teamwork ability	19 %	3 %	7 %	–	–
Social skills: customer serving skills	22 %	–	–	–	–
Ability to learn	–	4 %	–	–	–
Problem-solving ability	–	16 %	9 %	–	–

The percentages indicate how many of all companies in the sample have mentioned a demand for a specific type of skills or competences.

* only skilled workers.

** The figures are not reliable due to a small number of responses

Conclusion

It is important to put the empirical findings in both the Member States and the candidate countries into perspective. They represent a snapshot in a continuing transformation process. Currently, companies are experimenting with new techno-organisational solutions to find the most adequate production model to cope with the new competition logic of a globalising economy. The initial situation in both groups of countries is naturally different and the transformation processes in the candidate countries are much more complex (Kaukonen et al., 2000).

Some general trends can be identified. The empirical findings indicate low levels of rapid and widespread adaptation to the new techno-organisational restructuring logic. Companies in the Member States seldom apply a holistic and integrated restructuring strategy, and what is referred to as a learning organisation seems to be far from realisation. This could be because companies seldom define innovation as their strategic aim. They often produce standardised goods for regional demand only, which means that they are rarely confronted with the new competition scenario. In general, companies focus more on the technical than on the organisational dimension of modernisation

strategies. But companies in the member countries seem to be quite sensitive concerning the value of their workforce. Upgrading of skills and competences is increasingly defined as the duty of the workers themselves with some support by companies. Improving human resources cannot increase the learning and innovation capacity of companies substantially if business structures do not become more reflexive.

Companies in the candidate countries are even less prepared to pursue coherent renewal which would eventually integrate the development of innovation strategies and the technological infrastructure, new organisation forms and improved employee skills and competences. They are slow in introducing modern ICT and making use of its potential for flexibility. Where introduced, modern ICT seems to be used more often as automation and control than as communication technology. In addition, companies in the candidate countries seem not to value their workforce as highly as those in the Member States and they focus more on work-related skills and less on social skills and communication skills. The empirical findings show more divergence than convergence between companies in the Member States and the candidate countries, and even more between the two groups. This makes



it difficult to defend the argument that company restructuring strategies are increasingly influenced by a new approach triggered

by increasing demand for learning and innovation.

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Key words

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